Chapter 8: Probabilities of Selection and Calculation of Sampling Weights
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CSFII/DHKS Weighting Design

In general, the analysis of data from surveys having complex designs requires the use of sample weights to compensate for variable probabilities of selection, differential nonresponse rates, and possible deficiencies in the sampling frame (for example, undercoverage of certain population groups). For the CSFII/DHKS 1994–96, the overall probabilities of selection were designed to vary by sex, age, and income level to meet precision goals specified by ARS (see chapter 3).

To compensate for nonresponse and noncoverage, the data were weighted in the following steps: (1) a base weight equal to the reciprocal of the probability of selection was assigned to each sample person (SP); (2) the base weights were then adjusted for nonresponse within weighting classes, defined by variables that were determined to be correlated with response rates; (3) the nonresponse-adjusted weights were ratio adjusted to population estimates from the U.S. Bureau of the Census, Current Population Survey, to compensate for random variation in the observed sample counts and possible undercoverage of certain groups in the area sample frame (U.S. Department of Commerce 1994, 1995, 1996).

The following four sets of weights were calculated: (1) a set for SP's who completed the day-1 interview, (2) a set for SP's who provided 2 days of intake, (3) a set for all DHKS respondents, and (4) a set for DHKS respondents who provided 2 days of intake. Westat, Incorporated developed the overall weighting design and performed the calculations needed for the day-1 set of weights. Using their design and base weights, ARS made all the necessary computations for the 2-day sets of weights. In general, sample weights are required for analysis of the survey data.

Base weights

The base weight associated with an SP was the reciprocal of the overall probability of including that person in the survey. The base weights inflated the sample to the population if there was no nonresponse or noncoverage in the survey. For the CSFII/DHKS, nonresponse could occur at different stages of data collection, for example, (1) before the enumeration of SP's in the household, (2) after household enumeration and the selection of SP's but before the completion of the day-1 intake interview, (3) after the day-1 intake interview but before the completion of day-2 intake interview, and (4) after the day-1 intake interview but before

completion of the DHKS interview. In addition, nonresponse to the household questionnaire could occur after the selection of SP's in eligible households. Noncoverage arose when some members of the survey population had no chance of being selected. With the CSFII/DHKS, noncoverage could occur from incomplete listings of dwelling units (DU's) in selected segments or incomplete listings of persons within DU's.

For the CSFII/DHKS, SP's were selected through a complex, multistage sample design involving the selection of primary sampling units (PSU's), area segments within PSU's, DU's within segments, and finally SP's within households (see chapter 3). Some of the sampled segments were so large that an additional stage of sampling was introduced to reduce the amount of listing required. In general, these segments were divided into two or more chunks of approximately equal size. One chunk was selected with probability proportional to size. Of the 744 segments selected for the CSFII/DHKS, 54 were divided into chunks.

Within each segment, there existed the possibility of finding DU's that were missed in the listing process, and Westat's missed-structure and missed-DU procedure was used for this purpose. In segments where there were more than 10 missed DU's found, a random subsample of 10 of the DU's was retained in the study. For this reason, a factor was added to calculation of the base weight to compensate for these DU's.

To calculate the overall probabilities of selection, the following components were required:

1. the probability of selecting the PSU,

2. the probability of selecting the segment (or chunk) within the PSU,

3. the probability of selecting the household within the segment,

4. the probability that a dwelling unit identified through the missed structure procedure was retained for the sample, and

5. the probability of selecting an eligible SP from within the household.

For most SP's, the product of these five factors was the probability of being selected for the CSFII. These factors applied to SP's 1 year of age or older. For infants under 1 year of age, the weights were derived differently. Because infants were included in the CSFII/DHKS sample whenever another eligible SP 1 year old

or older was selected from the household, the probability of selecting an infant was the same as the probability of retaining that household for the CSFII/DHKS. Calculating the probability of selection for a DHKS respondent required a sixth factor, the probability of selecting an eligible CSFII respondent for the DHKS.

Imputing classification variables required for weighting

The assignment of base weights required that sex, age, and income status be known for all SP's. For a small number of cases (all nonrespondents), one or more of the required variables were not available in the screener questionnaire. For these cases, values of the missing variables were imputed by the methods described below.

In 1994, there were 6 cases out of 6,868 persons sampled where sex was missing.[1] For each of these SP's, a value was imputed by generating a uniform random number between 0 and 1 and setting the sex equal to male if the random number was less than 0.5. Otherwise, the sex was set to female.

For the 83 cases where age was missing, a broad age range (for example, "under 18" or "over 65") was often available in the abbreviated enumeration table ("neighbor information") of the screener questionnaire. This information was used to impute age by the following "hot-deck" procedure. First, a listing of the 6,868 SP's, sorted by message number and randomly within message number, was prepared. In the sorted listing, each case that had a missing value for age was located. For each of these cases, the next listed case was also identified that was assigned the same message number and that satisfied the same age range recorded in the abbreviated enumeration table. The age recorded for the latter cases (referred to as "donor records") was then assigned to the corresponding record with the missing age.

Income level was imputed for 12 SP's. To be consistent with the procedures developed for selecting SP's when income information was not obtained during screening (see chapter 3), the imputation was accomplished by inspecting the information recorded by the interviewer in the household folder to determine if the household included children under 6 years of age and if the household had no males over 18 years. If the information indicated this to be the case, the household and its members were coded as low income for weighting purposes. Otherwise, the household was imputed as non-low income for weighting purposes.

Development of nonresponse adjustments

Unit nonresponse (that is, whole questionnaire nonresponse) occurred when an eligible SP failed to respond to the survey for any reason. Separate adjustments were made to compensate for nonresponse in the screener interview, the day-1 intake interview, and the DHKS interview. For a given period of adjustment, the general approach was to divide the sample into a number of homogenous weighting classes, where nonresponse-adjusted weights were calculated by multiplying the base weights by the corresponding inverse of the weighted response rate for the class.

To adjust the SP base weights, the initial base weights were calculated by adjusting the reciprocal probabilities of selection for screening nonresponse. These adjustments were made within classes created by grouping segments by census region, MSA status, minority status of the segment (percent of the population that was black or Hispanic), and quarter of field operations. Within each class, the base weight of each eligible SP was increased by a factor corresponding to the screener nonresponse rate within the class.

These initial base weights were then adjusted again to account for person nonresponse. A different set of weighting classes was used for this adjustment. These classes were defined by income level, age, sex, census region, MSA status, quarter of field operations, and minority status of the segment. The result of this step was a set of nonresponse-adjusted base weights for responding SP's.

Nonresponse adjustments for the DHKS weights involved a modification to the CSFII nonresponse-adjusted weights which accounted for the fact that only day-1-responding adult SP's who responded without the assistance of a proxy could be interviewed for the DHKS. If there were two or more such respondents, one was randomly selected for the DHKS. Once that adjustment was made, the resulting modified initial weights were adjusted for DHKS nonresponse within classes defined by age, household size, annual income as a percentage of poverty level, race, and whether the SP's were on a special diet, usually shopped for food, or usually prepared meals. Such information was available because SP's selected for the DHKS had already participated in the CSFII.

Population adjustments

In addition to compensating for unequal selection probabilities and nonresponse, another important function of weighting is to adjust for sampling variability and possible undercoverage in the sampling frame. Therefore, the final step in the

weighting process was to calibrate the nonresponse-adjusted weights so the sum of the final weights equaled the corresponding March Current Population Survey totals within cells defined by the following variables (U.S. Department of Commerce 1994, 1995, 1996):

1. sex,
2. age group (seven categories based on intake interview),
3. home ownership (owned versus not owned),
4. season of intake (winter, spring, summer, fall),
5. day of week of day-1 intake,
6. day of week of day-2 intake (2-day weights only),
7. census region (four regions),
8. MSA status (metropolitan versus nonmetropolitan),
9. household income as a percentage of poverty level (1994 poverty thresholds),
10. household received food stamps in the past 12 months,
11. presence in household of persons 18 and older,
12. presence in household of children under 6 years,
13. presence in household of children 6 to 17 years,
14. presence of female head of household 40 years or younger and absence of anyone under 18 years,
15. employment status (for children this was the status of the female head, or if there was no female head, the male head of household),
16. race (black versus nonblack), and
17. ethnic origin (Hispanic versus non-Hispanic).

The calibration was implemented by an iterative process known as "raking ratio weighting." This process was carried out separately for each of the following four subsets: (1) males 20 years and older, (2) females 20 years and older, (3) children 5 years and younger, and (4) persons 6 to 19 years. The variables differed slightly for the four subsets as appropriate. The same procedure and sets of variables were used for both the CSFII and the DHKS weights. Before the process was carried out for the 2-day CSFII and DHKS subsets, the nonresponse-adjusted base weights described earlier were ratio adjusted within weighting classes to reflect nonresponse between day 1 and day 2. The day of the week that the day-2 intake was collected was added to the calibrating process. Tables 12 through 15 show, by weighting variable, the CSFII 1994 unweighted sample sizes, the weighted percentage distributions following nonresponse adjustments (but before calibration to population targets), and the population targets for day-1 and 2-day respondents. Tables 16 and 17 provide the same information for the DHKS 1994.

Summary of Final Weights

Table 18 summarizes the four sets of final weights for CSFII/DHKS 1994. The table shows the sample size, the sum of the weights, the coefficient of variation of the weights (*CV*), and $1 + (CV/100)^2$. This last statistic, which is equivalent to the ratio of the mean of the squared weights to the square of the mean of the weights, represents the anticipated proportional increase in the variance of survey estimates resulting from the variation in the weights. For example, it was anticipated that the variance of a day-1 estimate would be 1.43 times what it would have been had all the weights been equal. The final CSFII/DHKS 1994–96 data set contains annual sampling weights for each of the 3 years of the survey and a set of 3-year sampling weights for use in analyses using 3-year combined data.

Variance Estimation Fields

As described in chapter 3, Westat's 62 PSU master sample was employed for CSFII/DHKS 1994–96. This sample of PSU's contains 24 PSU's selected with certainty. The remaining 38 PSU's were selected with probability proportional to size from 38 strata, or 1 PSU per stratum. Thirty-six area segments (12 for each of the 3 years of the CSFII/DHKS) were then selected from each of the 62 PSU's also with probability proportional to size.

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1. In general, data provided are for 1994--the first year of the 3-year survey. Data for 1995 and 1996 are similar.

A framework was created of two sampling units per stratum to facilitate variance estimation procedures. First, 19 variance estimation strata were formed from the 38 noncertainty PSU's by pairing adjacent PSU's in the sampling frame. Each PSU within a variance estimation stratum defined what was referred to as a variance estimation unit. Next, within each of the 24 certainty PSU's, one-half of the segments were assigned to one variance estimation unit and the remaining one-half to another. Because each certainty PSU was considered to be a separate variance estimation stratum, a total of 43 variance estimation strata (each containing two variance estimation units) was formed by this process.

Replicate Weights

The final sampling weights, along with the variance estimation strata and estimation units described in "Variance Estimation Fields," may be used with a Taylor series linearization method to estimate sampling errors. Software packages such as SUDAAN (Shah et al. 1993) and PC CARP (Fuller et al. 1989) can be used to obtain estimates using the linearization method.

Sampling errors could also be estimated using the jackknife technique. Separate sets of jackknife replicate weights were constructed for the day-1 and 2-day CSFII/DHKS and 2-day DHKS (based on respondents who provided 2 days of intake). A prescribed number of subsamples called "jackknife replicates" were generated from the full sample.

The construction of jackknife replicates made use of the variance estimation stratum/variance estimation unit structure described above. A jackknife replicate was created by eliminating one of the two variance estimation units from a variance estimation stratum and doubling the initial base weights of the individuals in the other variance estimation unit. The person nonresponse adjustment was made to adjust for the loss of those persons in the variance estimation unit that was dropped. The calibration process was then repeated. When an individual was not in a replicate subsample, he or she was assigned a corresponding replicate weight of zero. In this way, a series of replicate weights was generated for each SP. Together with the final, full-sample weights, these replicates were designed for the calculation of sampling errors. Forty-three replicates were created by applying this process to each of the 43 variance estimation strata. Each replicate produces its own set of replicate weights for the entire sample.

One advantage of using such a replication method to calculate sampling errors of survey-based estimates is that it precludes the need for complicated variance estimation formulas like those produced by linearization (McCarthy 1966). It

should also be noted that the jackknife replicates were designed to reflect not only the stratification and clustering used in the CSFII/DHKS sample design, but also the weighting adjustment process. No publicly available software using the linearization method captures the effects of the raking ratio adjustment as well as jackknife replication.

To illustrate how a jackknife variance estimator can be calculated, let y denote a weighted survey estimate (for example, total fat intake) calculated using the full-sample weights. Let y(j) be the corresponding weighted estimate calculated using the j-th set of replicate weights. The estimated variance of y is then given by the formula:

$$\text{Var}(y) = \sum (y(j) - y)^2$$

where the summation extends over all 43 sets of jackknife replicate weights.

This replicate weighting process has been designed and implemented by Westat Incorporated. Westat has also created a variance estimation program, WesVarPC, which runs on computers using the Windows operating system and is available to the public at no charge (Westat 1996). WesVarPC computes weighted survey estimates and their associated sampling errors and provides confidence intervals for sample-based estimates. WesVarPC also performs modified chi-square tests of independence in weighted two-way tables using estimated design effects. These modified chi-square methods include the method proposed by Fellegi (1980) and two methods described by Rao and Scott (1981, 1984).

Factors Influencing Statistical Inference

Several factors affect the ability to make valid inferences from the data for the CSFII/DHKS. Two of these factors, survey weights and variance estimation, were alluded to in previous sections of this chapter. The third factor, the population of inference, is described next.

In general, the population of inference for any given study year of the CSFII/DHKS consisted of noninstitutionalized persons residing in the United States. Excluded were institutionalized individuals, such as those in prisons, juvenile facilities, and nursing homes. Also excluded were persons living in group quarters (for example, rooming houses), persons residing on military installations, and homeless persons.

Although the above definition is conceptually straightforward, special rules were required in a few unusual circumstances to establish eligibility for weighting and analytic purposes. These rules included the following:

- SP's who became institutionalized, died, or moved out of the country before completion of a particular interview were considered to be ineligible for that interview.

- SP's identified during screening who moved within the United States before the first intake interview and who could not be successfully traced and interviewed were considered to be eligible nonrespondents.

- An attempt was made to contact by telephone SP's who moved after completing the day-1 intake interview. If the day-2 intake interview was not obtained, the SP was considered to be an eligible nonrespondent for the combined day-1 and day-2 intake interviews, but a respondent for the day-1 intake interview only.

- SP's selected for the DHKS who later died, became institutionalized, or moved out of the country before completing the survey were treated as ineligible for the DHKS.

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Table 12. Males 20 years and older: Unweighted sample sizes, weighted percentage distributions following nonresponse adjustments for day-1 and 2-day totals, and population targets, CSFII 1994

Variable	Sample size		Nonresponse adjustment		Population targets*
	Day 1	2-day	Day 1	2-day	
	----number----		----------percent----------		
Home ownership/age					
Home owned					
20–39	305	286	27.6	27.6	26.4
40–59	434	417	26.8	27.2	25.9
60 and older	429	399	17.9	17.9	16.9
Home not owned					
20–39	274	253	19.0	18.8	20.3
40–59	136	126	6.2	6.0	7.5
60 and older	71	66	2.5	2.5	3.0
Season of intake					
Winter	373	351	21.2	21.3	25.0
Spring	420	391	25.7	25.4	25.0
Summer	438	409	28.0	28.0	25.0
Fall	418	396	25.1	25.3	25.0
Day of week of day-1 intake					
Sunday	284	268	17.1	17.1	14.3
Monday	269	253	15.3	15.3	14.3
Tuesday	234	218	14.3	14.1	14.3
Wednesday	194	176	11.8	11.5	14.3
Thursday	165	157	10.5	10.8	14.3
Friday	292	274	17.8	17.8	14.3
Saturday	211	201	13.3	13.4	14.3
Day of week of day-2 intake					
Sunday	---	249	---	15.8	14.3
Monday	---	292	---	19.1	14.3
Tuesday	---	288	---	18.8	14.3
Wednesday	---	224	---	14.0	14.3
Thursday	---	222	---	14.2	14.3
Friday	---	164	---	10.8	14.3
Saturday	---	108	---	7.2	14.3

Table 12.—Males 20 years and older: Unweighted sample sizes, weighted percentage distributions following nonresponse adjustments for day-1 and 2-day totals, and population targets, CSFII 1994—Continued

Variable	Sample size		Nonresponse adjustment		Population targets*
	Day 1	2-day	Day 1	2-day	
	----number----		----------percent----------		
Household income as a percentage of poverty level					
0–75%	156	143	5.6	5.3	5.0
76–130%	228	215	8.6	7.8	7.9
131–300%	540	514	33.1	34.4	31.0
Over 300%	725	675	52.7	52.5	56.1
Household received food stamps in past 12 months					
Yes	139	133	5.3	5.3	6.4
No	1,510	1,414	94.7	94.7	93.6
Presence of persons 18 and older in household					
Exactly 1	203	191	11.4	11.4	11.5
Exactly 2	1,034	974	63.5	63.7	59.7
More than 2	412	382	25.2	24.9	28.8
Presence of child under 6 and 6–17 in household					
Child under 6					
Child 6–17	140	135	9.8	10.1	9.0
No child 6–17	128	121	9.3	9.4	9.9
No child under 6					
Child 6–17	323	303	21.9	22.0	20.1
No child 6-17	1,058	988	59.0	58.6	61.1
Presence of female head of household 40 or younger and no one under 18					
Yes	104	98	8.3	8.4	7.3
No	1,545	1,449	91.7	91.6	92.7

Table 12.—Males 20 years and older: Unweighted sample sizes, weighted percentage distributions following nonresponse adjustments for day-1 and 2-day totals, and population targets, CSFII 1994—Continued

Variable	Sample size		Nonresponse adjustment		Population targets*
	Day 1	2-day	Day 1	2-day	
	----number----		----------percent----------		
Employment status					
Have job	1,069	1,007	74.7	75.1	69.8
Do not have job	580	540	25.3	24.9	30.2
Census region					
Northeast	305	281	18.9	18.6	20.0
Midwest	390	378	22.8	23.5	23.3
South	579	546	36.3	36.4	34.5
West	375	342	22.0	21.5	22.2
MSA status					
MSA (metropolitan)	1,195	1,115	77.3	77.4	78.8
Non-MSA	454	432	22.7	22.6	21.2
Race					
Black	172	164	10.7	10.9	10.5
Nonblack	1,477	1,383	89.3	89.1	89.5
Ethnic origin					
Hispanic	152	139	8.3	8.1	9.3
Non-Hispanic	1,497	1,408	91.7	91.9	90.7
TOTAL	1,649	1,547	100.0	100.0	100.0

* Calculated using 1994 Current Population Survey data, except for the variables "season of intake" and "day of week of intake." Since the goal of the CSFII was to estimate behavior on an average day, each day of the week received an equal value of 14.3 percent, and each season received a value of 25 percent.

Table 13. Females 20 years and older: Unweighted sample sizes, weighted percentage distributions following nonresponse adjustments for day-1 and 2-day totals, and population targets, CSFII 1994

Variable	Sample size		Nonresponse adjustment		Population targets*
	Day 1	2-day	Day 1	2-day	
	----number----		----------percent----------		
Home ownership/age					
Home owned					
20–39	275	263	24.1	24.3	23.9
40–59	448	426	26.4	26.4	24.9
60 and older	392	364	19.4	19.5	19.3
Home not owned					
20–39	291	271	19.9	19.7	19.6
40–59	143	133	5.8	5.8	7.2
60 and older	93	84	4.4	4.3	5.1
Season of intake					
Winter	395	368	21.2	23.0	25.0
Spring	399	371	25.7	24.1	25.0
Summer	433	414	28.0	28.1	25.0
Fall	415	388	25.1	24.9	25.0
Day of week of day-1 intake					
Sunday	301	283	17.1	17.9	14.3
Monday	266	243	15.3	15.6	14.3
Tuesday	238	218	14.3	13.9	14.3
Wednesday	193	182	11.8	11.6	14.3
Thursday	163	156	10.5	10.9	14.3
Friday	280	269	17.8	17.7	14.3
Saturday	201	190	13.3	12.4	14.3
Day of week of day-2 intake					
Sunday	---	295	---	19.4	14.3
Monday	---	289	---	18.8	14.3
Tuesday	---	241	---	16.1	14.3
Wednesday	---	244	---	15.1	14.3
Thursday	---	205	---	13.1	14.3
Friday	---	164	---	11.1	14.3
Saturday	---	103	---	6.5	14.3

Table 13. —Females 20 years and older: Unweighted sample sizes, weighted percentage distributions following nonresponse adjustments for day-1 and 2-day totals, and population targets, CSFII 1994—Continued

Variable	Sample size		Nonresponse adjustment		Population targets*
	Day 1	2-day	Day 1	2-day	
	----number----		----------percent----------		
Household income as a percentage of poverty level					
0–75%	197	186	8.4	8.3	8.6
76–130%	217	200	8.9	8.8	10.8
131–300%	549	519	34.1	35.6	31.8
Over 300%	679	636	47.6	47.4	48.8
Household received food stamps in past 12 months					
Yes	185	171	8.3	8.1	10.4
No	1,457	1,370	91.7	91.9	89.6
Presence of persons 18 and older in household					
Exactly 1	368	338	18.9	18.6	20.8
Exactly 2	923	878	58.8	59.4	56.0
More than 2	351	325	22.3	22.0	23.2
Presence of child under 6 and 6–17 in household					
Child under 6					
Child 6–17	156	151	10.9	11.3	10.1
No child 6–17	141	130	9.7	9.5	11.0
No child under 6					
Child 6–17	338	318	22.8	22.7	21.7
No child 6-17	1,007	942	56.6	56.5	57.3
Presence of female head of household 40 or younger and no one under 18					
Yes	166	155	13.1	12.8	10.7
No	1,476	1,386	86.9	87.2	89.3

Table 13. —Females 20 years and older: Unweighted sample sizes, weighted percentage distributions following nonresponse adjustments for day-1 and 2-day totals, and population targets, CSFII 1994—Continued

Variable	Sample size		Nonresponse adjustment		Population targets*
	Day 1	2-day	Day 1	2-day	
	----number----		----------percent----------		
Employment status					
Have job	838	799	57.7	58.1	55.5
Do not have job	804	742	42.3	41.9	44.5
Census region					
Northeast	306	276	18.6	18.3	20.7
Midwest	422	405	24.8	25.0	23.5
South	581	551	36.6	37.1	34.9
West	333	309	20.0	19.7	20.9
MSA status					
MSA (metropolitan)	1,215	1,131	77.0	76.7	78.7
Non-MSA	427	410	23.0	23.3	21.3
Race					
Black	214	201	13.8	13.9	12.0
Nonblack	1,428	1,340	86.2	86.1	88.0
Ethnic origin					
Hispanic	150	139	8.5	8.4	8.4
Non-Hispanic	1,492	1,402	91.5	91.6	91.6
TOTAL	1,642	1,541	100.0	100.0	100.0

* Calculated using 1994 Current Population Survey data, except for the variables "season of intake" and "day of week of intake." Since the goal of the CSFII was to estimate behavior on an average day, each day of the week received an equal value of 14.3 percent, and each season received a value of 25 percent.

Table 14. Children 5 years and younger: Unweighted sample sizes, weighted percentage distributions following nonresponse adjustments for day-1 and 2-day totals, and population targets, CSFII 1994

Variable	Sample size		Nonresponse adjustment		Population targets*
	Day 1	2-day	Day 1	2-day	
	----number----		----------percent----------		
Age/Sex					
Male					
0–2	311	299	22.1	21.7	25.5
3–5	299	293	27.7	27.9	25.6
Female					
0–2	314	300	22.5	22.3	24.4
3–5	303	296	27.7	28.1	24.5
Home ownership					
Home owned	687	670	57.0	56.9	53.6
Home not owned	540	518	43.0	43.1	46.4
Season of intake					
Winter	309	299	21.2	25.1	25.0
Spring	298	287	25.7	23.5	25.0
Summer	317	309	28.0	26.0	25.0
Fall	303	293	25.1	25.4	25.0
Day of week of day-1 intake					
Sunday	205	193	17.1	16.1	14.3
Monday	179	170	15.3	14.7	14.3
Tuesday	211	207	14.3	17.3	14.3
Wednesday	147	144	11.8	12.2	14.3
Thursday	139	137	10.5	11.6	14.3
Friday	196	193	17.8	16.1	14.3
Saturday	150	144	13.3	12.0	14.3
Day of week of day-2 intake					
Sunday	---	201	---	18.0	14.3
Monday	---	247	---	21.0	14.3
Tuesday	---	194	---	16.0	14.3
Wednesday	---	177	---	14.6	14.3
Thursday	---	194	---	16.1	14.3
Friday	---	95	---	7.9	14.3
Saturday	---	80	---	6.4	14.3

Table 14.—Children 5 years and younger: Unweighted sample sizes, weighted percentage distributions following nonresponse adjustments for day-1 and 2-day totals, and population targets, CSFII 1994—Continued

Variable	Sample size		Nonresponse adjustment		Population targets*
	Day 1	2-day	Day 1	2-day	
	----number----		----------percent----------		
Household income as a percentage of poverty level					
0–75%	255	245	19.8	19.9	18.5
76–130%	175	164	13.8	13.0	13.9
131–300%	435	419	35.8	36.8	34.8
Over 300%	362	360	30.7	30.4	32.9
Household received food stamps in past 12 months					
Yes	334	314	25.4	25.1	25.0
No	893	874	74.6	74.9	75.0
Presence of persons 18 and older in household					
Exactly 1	183	173	14.4	14.3	14.7
Exactly 2	877	853	71.6	71.6	71.7
More than 2	167	162	14.0	14.1	13.6
Presence of child 6–17 in household					
Child 6–17	546	536	45.7	46.3	44.8
No child 6–17	681	652	54.3	53.7	55.2
Employment status of female head of household (or male head if there is no female head)					
Have job	674	651	55.4	55.0	53.5
Do not have job	553	537	44.6	45.0	46.5

Table 14.—Children 5 years and younger: Unweighted sample sizes, weighted percentage distributions following nonresponse adjustments for day-1 and 2-day totals, and population targets, CSFII 1994—Continued

Variable	Sample size		Nonresponse adjustment		Population targets*
	Day 1	2-day	Day 1	2-day	
	----number----		----------percent----------		
Census region					
Northeast	208	205	17.2	17.4	18.8
Midwest	298	287	24.3	24.2	23.8
South	403	389	32.5	32.3	33.6
West	318	307	26.0	26.1	23.9
MSA status					
MSA (metropolitan)	942	913	77.7	77.8	81.2
Non-MSA	285	275	22.3	22.2	18.8
Race					
Black	179	165	14.4	14.0	16.5
Nonblack	1,048	1,023	85.6	86.1	83.5
Ethnic origin					
Hispanic	197	189	16.3	16.3	15.2
Non-Hispanic	1,030	999	83.7	83.7	84.8
TOTAL	1,227	1,188	100.0	100.0	100.0

* Calculated using 1994 Current Population Survey data, except for the variables "season of intake" and "day of week of intake." Since the goal of the CSFII was to estimate behavior on an average day, each day of the week received an equal value of 14.3 percent, and each season received a value of 25 percent.

Table 15. Persons 6 to 19 years: Unweighted sample sizes, weighted percentage distributions following nonresponse adjustments for day-1 and 2-day totals, and population targets, CSFII 1994

Variable	Sample size		Nonresponse adjustment		Population targets*
	Day 1	2-day	Day 1	2-day	
	----number----		----------percent----------		
Age/Sex					
Male					
6–11	254	252	21.3	21.5	22.7
12–19	286	268	30.4	30.1	28.3
Female					
3–5	271	261	27.6	27.8	27.3
6–11	260	254	20.6	20.5	21.6
Home ownership					
Home owned	722	704	71.2	71.6	66.2
Home not owned	349	331	28.8	28.4	33.8
Season of intake					
Winter	292	278	21.2	26.4	25.0
Spring	251	244	25.7	22.5	25.0
Summer	281	271	28.0	28.3	25.0
Fall	247	242	25.1	22.8	25.0
Day of week of day-1 intake					
Sunday	160	153	17.1	14.4	14.3
Monday	175	162	15.3	15.2	14.3
Tuesday	166	163	14.3	15.5	14.3
Wednesday	161	159	11.8	14.5	14.3
Thursday	114	109	10.5	11.8	14.3
Friday	171	167	17.8	16.0	14.3
Saturday	124	122	13.3	12.8	14.3
Day of week of day-2 intake					
Sunday	---	209	---	20.4	14.3
Monday	---	211	---	21.2	14.3
Tuesday	---	163	---	15.6	14.3
Wednesday	---	119	---	11.6	14.3
Thursday	---	133	---	12.9	14.3
Friday	---	122	---	11.4	14.3
Saturday	---	78	---	6.9	14.3

Table 15.—Persons 6 to 19 years: Unweighted sample sizes, weighted percentage distributions following nonresponse adjustments for day-1 and 2-day totals, and population targets, CSFII 1994—Continued

Variable	Sample size		Nonresponse adjustment		Population targets*
	Day 1	2-day	Day 1	2-day	
	----number----		----------percent----------		
Household income as a percentage of poverty level					
0–75%	173	164	12.8	12.8	14.1
76–130%	124	119	10.0	9.4	12.0
131–300%	407	399	38.9	39.6	35.0
Over 300%	367	353	38.3	38.2	38.9
Household received food stamps in past 12 months					
Yes	184	171	14.1	13.6	17.3
No	887	864	85.9	86.4	82.7
Presence of persons 18 and older in household					
Exactly 1	139	135	11.2	11.4	15.5
Exactly 2	663	649	60.5	61.1	58.7
More than 2	269	251	28.3	27.6	25.8
Presence of child under 6 and 6–17 in household					
Child under 6	303	289	26.3	26.1	27.1
No child under 6	768	746	73.7	73.6	72.9
Child 6–17	60	58	6.1	6.2	6.9
No child 6–17	1,011	977	93.9	93.8	93.1
Employment status of female head of household (or male if there is no female head)					
Have job	703	689	67.4	68.4	64.3
Do not have job	368	346	32.6	31.6	35.7

Table 15.—Persons 6 to 19 years: Unweighted sample sizes, weighted percentage distributions following nonresponse adjustments for day-1 and 2-day totals, and population targets, CSFII 1994—Continued

Variable	Sample size		Nonresponse adjustment		Population targets*
	Day 1	2-day	Day 1	2-day	
	----number----		----------percent----------		
Census region					
Northeast	150	145	14.0	14.1	18.5
Midwest	285	279	25.6	25.9	24.1
South	361	348	35.6	35.8	34.8
West	275	263	24.8	24.3	22.6
MSA status					
MSA (metropolitan)	782	751	75.5	75.2	77.4
Non-MSA	289	284	24.5	24.8	22.6
Race					
Black	142	137	14.7	14.9	15.8
Nonblack	929	898	85.3	85.1	84.2
Ethnic origin					
Hispanic	159	152	13.5	13.5	12. 9
Non-Hispanic	912	883	86.5	86.5	87.1
TOTAL	1,071	1,035	100.0	100.0	100.0

* Calculated using 1994 Current Population Survey data, except for the variables "season of intake" and "day of week of intake." Since the goal of the CSFII was to estimate behavior on an average day, each day of the week received an equal value of 14.3 percent, and each season received a value of 25 percent.

Table 16. Males 20 years and older: Unweighted sample sizes, weighted percentage distributions following nonresponse adjustments for day-1 and 2-day totals, and population targets, DHKS 1994

Variable	Sample size		Nonresponse adjustment		Population targets*
	Day 1	2-day	Day 1	2-day	
	----number----		----------percent----------		
Home ownership/age					
Home owned					
20–39	159	156	27.4	27.3	26.4
40–59	236	236	26.8	27.1	25.9
60 and older	224	222	17.0	17.0	16.9
Home not owned					
20–39	145	140	20.0	19.7	20.3
40–59	91	89	6.2	6.2	7.5
60 and older	47	46	2.6	2.6	3.0
Season of intake					
Winter	194	194	21.1	21.4	25.0
Spring	235	231	27.5	27.4	25.0
Summer	246	242	28.0	27.9	25.0
Fall	227	222	23.4	23.3	25.0
Day of week of day-1 intake					
Sunday	149	147	16.7	16.7	14.3
Monday	139	138	14.4	14.5	14.3
Tuesday	135	132	14.9	14.7	14.3
Wednesday	113	109	13.1	12.9	14.3
Thursday	86	85	10.2	10.2	14.3
Friday	158	157	17.1	17.2	14.3
Saturday	122	121	13.6	13.8	14.3
Day of week of day-2 intake					
Sunday	---	138	---	15.4	14.3
Monday	---	174	---	21.6	14.3
Tuesday	---	165	---	17.6	14.3
Wednesday	---	137	---	14.7	14.3
Thursday	---	116	---	12.9	14.3
Friday	---	95	---	10.8	14.3
Saturday	---	64	---	7.0	14.3

Table 16.—Males 20 years and older: Unweighted sample sizes, weighted percentage distributions following nonresponse adjustments for day-1 and 2-day totals, and population targets, DHKS 1994—Continued

Variable	Sample size		Nonresponse adjustment		Population targets*
	Day 1	2-day	Day 1	2-day	
	----number----		----------percent----------		
Household income as a percentage of poverty level					
0–75%	84	81	5.9	5.7	5.0
76–130%	137	134	8.1	8.0	7.9
131–300%	288	287	32.7	33.1	31.0
Over 300%	393	387	53.3	53.2	56.1
Household received food stamps in past 12 months					
Yes	87	86	5.8	5.9	6.4
No	815	803	94.2	94.1	93.6
Presence of persons 18 and older in household					
Exactly 1	179	178	12.0	12.2	11.5
Exactly 2	565	557	65.9	65.9	59.7
More than 2	158	154	22.1	21.9	28.8
Presence of child under 6 and 6–17 in household					
Child under 6					
Child 6–17	70	70	8.9	9.0	9.0
No child 6–17	75	73	10.4	10.3	9.9
No child under 6					
Child 6–17	168	167	21.3	21.5	20.1
No child 6–17	589	579	59.4	59.2	61.1
Presence of female head of household 40 or younger and no one under 18					
Yes	54	52	9.4	9.2	7.3
No	848	837	90.6	90.8	92.7

Table 16.—Males 20 years and older: Unweighted sample sizes, weighted percentage distributions following nonresponse adjustments for day-1 and 2-day totals, and population targets, DHKS 1994—Continued

Variable	Sample size		Nonresponse adjustment		Population targets*
	Day 1	2-day	Day 1	2-day	
	----number----		----------percent----------		
Employment status					
Have job	588	579	75.4	75.3	69.8
Do not have job	314	310	24.6	24.7	30.2
Census region					
Northeast	162	158	16.7	16.5	20.0
Midwest	218	216	23.2	23.4	23.3
South	317	314	36.8	37.1	34.5
West	205	201	23.2	23.1	22.2
MSA status					
MSA (metropolitan)	639	628	76.9	76.7	78.8
Non-MSA	263	261	23.1	23.3	21.2
Race					
Black	102	100	12.5	12.2	10.5
Nonblack	800	789	87.5	87.8	89.5
Ethnic origin					
Hispanic	80	78	8.1	8.1	9.3
Non-Hispanic	822	811	91.9	91.9	90.7
TOTAL	902	889	100.0	100.0	100.0

* Calculated using 1994 Current Population Survey data, except for the variables "season of intake" and "day of week of intake." Since the goal of the CSFII was to estimate behavior on an average day, each day of the week received an equal value of 14.3 percent, and each season received a value of 25 percent.

Table 17. Females 20 years and older: Unweighted sample sizes, weighted percentage distributions following nonresponse adjustments for day-1 and 2-day totals, and population targets, DHKS 1994

Variable	Sample size		Nonresponse adjustment		Population targets*
	Day 1	2-day	Day 1	2-day	
	----number----		----------percent----------		
Home ownership/age					
Home owned					
20–39	138	136	23.2	23.4	23.9
40–59	261	254	26.9	27.1	24.9
60 and older	237	229	19.6	19.5	19.3
Home not owned					
20–39	180	172	21.1	20.8	19.6
40–59	95	92	5.3	5.3	7.2
60 and older	66	64	4.0	4.0	5.1
Season of intake					
Winter	239	234	23.4	23.5	25.0
Spring	231	221	22.6	22.4	25.0
Summer	255	252	27.3	27.8	25.0
Fall	252	240	26.6	26.3	25.0
Day of week of day-1 intake					
Sunday	181	175	17.8	17.6	14.3
Monday	155	150	15.2	15.2	14.3
Tuesday	143	137	13.3	13.3	14.3
Wednesday	112	108	11.3	11.4	14.3
Thursday	96	94	11.5	11.6	14.3
Friday	170	166	18.8	17.8	14.3
Saturday	120	117	12.0	12.1	14.3
Day of week of day-2 intake					
Sunday	---	192	---	21.5	14.3
Monday	---	164	---	16.9	14.3
Tuesday	---	158	---	17.2	14.3
Wednesday	---	148	---	13.8	14.3
Thursday	---	122	---	13.7	14.3
Friday	---	93	---	10.2	14.3
Saturday	---	70	---	6.8	14.3

Table 17.—Females 20 years and older: Unweighted sample sizes, weighted percentage distributions following nonresponse adjustments for day-1 and 2-day totals, and population targets, DHKS 1994—Continued

Variable	Sample size		Nonresponse adjustment		Population targets*
	Day 1	2-day	Day 1	2-day	
	----number----		----------percent----------		
Household income as a percentage of poverty level					
0–75%	144	140	8.6	8.4	8.6
76–130%	142	138	8.7	8.7	10.8
131–300%	318	310	35.2	35.4	31.8
Over 300%	373	359	47.6	47.5	48.8
Household received food stamps in past 12 months					
Yes	129	127	8.6	8.7	10.4
No	848	820	91.4	91.3	89.6
Presence of persons 18 and older in household					
Exactly 1	336	324	18.9	18.7	20.8
Exactly 2	491	476	59.1	59.0	56.0
More than 2	150	147	22.0	22.3	23.2
Presence of child under 6 and 6–17 in household					
Child under 6					
Child 6–17	86	85	10.5	10.7	10.1
No child 6–17	73	71	9.2	9.1	11.0
No child under 6					
Child 6–17	199	196	23.5	23.8	21.7
No child 6-17	619	595	56.9	56.5	57.3
Presence of female head of household 40 or younger and no one under 18					
Yes	96	91	13.3	13.0	10.7
No	881	856	86.7	87.0	89.3

Table 17.—Females 20 years and older: Unweighted sample sizes, weighted percentage distributions following nonresponse adjustments for day-1 and 2-day totals, and population targets, DHKS 1994—Continued

Variable	Sample size		Nonresponse adjustment		Population targets*
	Day 1	2-day	Day 1	2-day	
	----number----		----------percent----------		
Employment status					
Have job	493	479	57.5	57.6	55.5
Do not have job	484	468	42.5	42.4	44.5
Census region					
Northeast	201	192	20.8	20.8	20.7
Midwest	286	280	27.5	27.7	23.5
South	328	317	33.7	33.3	34.9
West	162	158	17.9	18.3	20.9
MSA status					
MSA (metropolitan)	722	697	75.9	75.7	78.7
Non-MSA	255	250	24.1	24.3	21.3
Race					
Black	130	127	12.5	12.4	12.0
Nonblack	847	820	87.5	87.6	88.0
Ethnic origin					
Hispanic	82	81	7.9	8.0	8.4
Non-Hispanic	895	866	92.1	92.0	91.6
TOTAL	977	947	100.0	100.0	100.0

* Calculated using 1994 Current Population Survey data, except for the variables "season of intake" and "day of week of intake." Since the goal of the CSFII was to estimate behavior on an average day, each day of the week received an equal value of 14.3 percent, and each season received a value of 25 percent.

Table 18. Summary of final sampling weights, CSFII/DHKS 1994

Weight	Sample size	Sum of weights	*CV* (percent)	Average design effect $1+(CV/100)^2$ (number)
	----------number----------			
Day 1	5,589	259,507,267	65.80	1.43
2-day	5,311	259,507,209	77.59	1.60
DHKS	1,879	182,865,634	85.92	1.74
2-day DHKS	1,836	182,865,638	95.24	1.91